Caution about Blue-Green Algae on Lake Burien

August 23, 2010

King County staff working with Lake Burien residents confirmed on August 20, 2010, the presence of a type of algae in the lake that could cause health problems for people and dogs. Residents should take steps to minimize their exposure to this algae.

What is the algae and what does it look like?

The algae is cyanobacteria and is commonly called blue-green algae. A blue-green algae bloom often looks like green paint floating on the water and is hard to pick up or hold. It can take the form of a scum. Despite its name, it can be a range of colors including bright green, blue-green, olive, yellow-brown, and red. Because the algae is often at the surface, the wind blows it around and it can get caught up in shoreline vegetation.

Why is blue-green algae a cause for concern?

The Washington State Department of Ecology notes that *some* blue-green algae blooms pose a human health concern and have killed pets and livestock. Although most blue-green blooms are not toxic, some blue-green algae produce nervous system or liver toxins. Toxicity is hard to predict, especially by sight. The size or intensity of the scum do *not* indicate the toxicity. A single species of algae can have toxic and non-toxic strains. A bloom that tests non-toxic one day can become toxic the next day.

People may become ill after swimming or water skiing in lakes with toxic blue-green algae. Human health effects may include stomach pains, vomiting, diarrhea, skin rashes, and nerve and liver damage. Pets and wildlife have died after exposure to toxic blue-green algae in Washington lakes.

What is the type and concentration of blue-green algae in Lake Burien?

Blue-green algae was first observed by King County staff working with lake neighbors on invasive plant control on Lake Burien on August 16. They took a sample of the algae and analyzed it during the week. The type of blue-green algae found on Lake Burien produces toxins that harm the liver, known as hepatotoxins. The analysis showed this type of toxin present at a concentration of 5.72 micrograms per liter. This concentration is just below the state's proposed recreational guideline "caution level" of 6 micrograms per liter. Note that this sample represents a shoreline concentration as opposed to a whole lake average. Because the toxin is concentrated mostly in the algae, in this case found along the shore, concentrations of the toxin in the open water of the lake may well be lower.

How should I reduce my exposure to this algae and its toxins?

Lake Burien residents should take steps to reduce their potential exposure to toxins that may be in the water:

- People should avoid swimming, playing, or boating in areas where the water is scummy or blue-green algae has accumulated.
- Swimmers should take care to minimize accidental ingestion of water.
- Clean fish well and discard the guts.

The most immediate health risk -- given the current low level of toxins present -- is to dogs. Owners should take care to keep their dogs from drinking lake water. Owners should avoid "retrieval" games with dogs who will ingest water when fetching balls or sticks in the water. Dogs should be kept out of the scum because they can ingest the algae when cleaning themselves.

How long is the algae going to be a problem?
Blue-green algae will die out with the onset of cold weather but may be present in the lake into November. King County staff will sample algae every two weeks if algae continue to be reported. The Washington State Department of Ecology pays for the cost of analyzing samples.

How can I learn more about blue-green algae?
A good source of information is the Washington State Department of Ecology's website:
http://www.ecy.wa.gov/programs/wq/plants/algae/index.html

More general information on algae in local lakes is here
http://your.kingcounty.gov/dnrp/library/archive-documents/wlr/waterres/smlakes/algae101.pdf

What if I see blue-green algae in the lake at my property?
Please report sightings of blue-green algae to the Miller/Walker Creek basin steward Dennis Clark, dennis.clark@kingcounty.gov, 206-296-1909. Reports on the presence of algae will help staff determine when and where to take future samples.

How can I stay informed of the results of future algae samplings?
Sampling results will be posted at the Miller/Walker basin web page
http://www.kingcounty.gov/environment/watersheds/central-puget-sound/miller-walker-creeks.aspx

If algae conditions worsen significantly, you will be notified through this newsletter, local media, and notices sent to shoreline properties. You may contact Miller/Walker Creek basin steward Dennis Clark, dennis.clark@kingcounty.gov, 206-296-1909, at any time to learn more.

Is there anything we can do to reduce the likelihood blue-green algae will recur in future years?
A big driver of algae blooms are nutrient inputs including nitrogen and phosphorous. Residents can reduce the amount of nutrients and enhance the lake through a variety of steps. Many of these steps are associated with lawn and garden care. For more information, please see the "Living with Lakes" website
http://www.kingcounty.gov/environment/waterandland/lakes/facts/garden.aspx